4 COMMUNITY WALKABILITY

4.1 Introduction

'Walkability' describes the extent to which the built environment is walking-friendly. It is a useful way to assess the characteristics of an area or a route, although it can be subjective. Section 11 discusses methods for assessing walkability.

4.2 Aspects of walkable communities

Getting there – on foot, by cycle, the national strategy for walking and cycling, states in its key principles that:

'Individuals are more likely to choose to walk or cycle if they see the environment as being walk-and-cycle-friendly – that is, convenient, safe and pleasant, with direct routes that minimise travel time.

'A comprehensive approach that works to maximise the range of destinations within walking or cycling distance, to improve the environment for walking and cycling, and to show individuals how these modes can effectively meet their personal needs will have the best chance of success.'

It takes several important qualities to describe a walkable community. Many ways are used to classify these, but all attempt to describe the same characteristics. The nine primary characteristics shown in Table 4.1 are considered to provide a convenient description of a truly walkable community.

Table 4.1 – Primary characteristics of walkable communities	
Characteristic	**Definition**
Connected	Does the network provide direct access for pedestrians to the places they wish to reach? Do paths connect well to public transport and to surrounding networks?
Legible	Are walking networks clearly signposted and are they published in local maps? Can visitors find their way? Do users intuitively sense how to use the facilities?
Comfortable	Are routes unpolluted by excessive noise and fumes? Are paths wide enough with even surfaces and gentle gradients? Is there shelter from the elements and places to rest?
Convenient	Are routes continuous, efficient, unimpeded by obstacles, and undelayed by other path users and road traffic?
Pleasant	Are the pedestrian spaces enjoyable, interesting, quiet and clean with qualities encouraging lingering and social interaction?
Safe	Are road crossing places and driveway crossings safe from traffic danger and do all surfaces provide a good grip when wet and provide even surfaces free from trip hazards?
Secure	Does the walking environment discourage antisocial and criminal behaviour due to the application of the principles of crime prevention through environmental design?
Universal	Are facilities suitable for mobility and vision-impaired pedestrians through gentle gradients, visual contrast, audible and tactile features?
Accessible	Are popular destinations within easy walking distance.

Three interrelated areas – land use planning, pedestrian infrastructure and the road controlling authority's (RCA) attitude [19] – have a significant impact on walkability. Appendix 2 has more details on pedestrian issues to address in district plans. Table 4.2 summarises the policies affecting walkable communities.

Table 4.2 – Policies affecting walkable communities	
Area	**Characteristic**
Land use planning (in existing areas)	• A wide range of desired destinations is available within walking distance* in town centres, local communities and suburbs. • Town centre destinations provide a range of shops, offices, services, entertainment and public spaces. • In local communities, destinations include a range of business, community and civic services including schools and medical • All dwellings are within walking distance* of a public space (either a community facility or an open area), a convenience store and a frequent public transport service. (* The target walking distances used should be set locally, based on walking times, and decreased as progress is made towards achieving them.)
Land use planning (for new development)	• District plan policies provide a permeable pedestrian network and do not permit layouts that include circuitous routes and cul-de-sacs that have no alternative outlet for pedestrians. • Planning provides for a range of services/destinations relevant to all ages within walking distance. Mixed and/or higher density development is favoured, particularly close to public transport routes, interchanges and the urban core. • Crime prevention through environmental design (CPTED) principles [107] should be applied to all new development. • Provision and charging for parking spaces is carefully managed.
Pedestrian infrastructure	• Pedestrians are considered at an early stage in planning transport infrastructure. Appropriate levels of pedestrian service are established and provided across the roading hierarchy and path network. • Good provision is made for those with mobility and cognitive impairments throughout the entire network. • Motorised traffic speed is managed by design and regulation taking pedestrian needs into account. In areas of high pedestrian importance or density, traffic speed is determined by pedestrians, or alternative pedestrian routes are specifically designed to provide a higher level of safety and convenience. • Pedestrians are generally placed at, or close to, the top of the road user hierarchy, with their needs met by facilities and treatments that provide a high level of safety and access. Section 5.2 explains this further.
RCA approach	• There is a clearly articulated, up-to-date and suitably funded strategy for providing for pedestrians and increasing their number. • There is a suitable budget for maintaining the quality of pedestrian infrastructure. • The RCA has a nominated, well informed person for 'championing' walking, who is consulted on all schemes that could affect pedestrians' interests. • The RCA regularly seeks feedback from pedestrians and other relevant affected parties on all improvement schemes and current/future infrastructure and may benefit from a formal reference group. • Information on pedestrian routes is effectively coordinated and promoted.

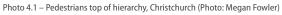Photo 4.1 – Pedestrians top of hierarchy, Christchurch (Photo: Megan Fowler)

Photo 4.2 – Information booth, Christchurch (Photo: Megan Fowler)

4.3 The importance of urban form

'Urban form' relates to how settlements are designed and structured, the type of development that is allowed and where, and how the different areas are connected. Urban form affects the need to travel [63, 106, 163] and the attractiveness (or otherwise) of walking as a practical form of transport [26, 63, 64, 106, 172].

Three interrelated elements affect whether urban form is suitable for pedestrians – pedestrian permeability, connections to transport and strategic planning [5, 103] (see Table 4.3).

The principles of pedestrian network planning

Figure 4.1 – Externally distributed network with poor internal connections apart from some narrow paths, Blenheim (Source: Grant Crosswell, Marlborough District Council)

Table 4.3 – Important elements of urban form for pedestrians		
Element	**Definition**	**Typical benefits**
Pedestrian permeability	The extent to which an accessible environment is provided for pedestrians, free of obstruction and severance.	• There are reduced waiting times at traffic signals and crossings. • Pedestrians having priority at side road crossings. • Pedestrians can continue to use routes that are closed to other traffic. • Traffic-calming, low-speed zones and shared zones are implemented.
Connections to destinations	The extent to which the walking network integrates with likely trip origins and destinations, including the public transport network.	• The pedestrian network links to obvious trip ends, such as schools, shops, supermarkets, parks, public spaces and community services. • Particular attention is paid to the interface between trip ends and the pedestrian network, such as providing shelters, shaded seating and pedestrian signage. • The environment in the immediate vicinity of public transport nodes and interchanges is more intensively developed and pedestrian friendly.
Strategic planning	The extent to which the local policies and strategies encourage walking as a mode of transport.	• There is coordinated land-use and transport planning. • District plan development policies promote walking. • District plan development policies encourage increased housing density around transportation nodes and interchanges. • Traffic demand can be managed. • A regular programme of walkability audits can be implemented. • Local walking strategies reflect the complexity of encouraging walking, for example, linking infrastructure provision with active promotion of walking as a transport mode. • There is coordination between parks and roads for route planning, lighting and signage.

Because pedestrians are the slowest mode, any deviation in their routes will inconvenience them more than other modes. Pedestrians benefit most from finely grained permeable networks. The appropriate spacing of pedestrian network elements relative to other modes can be judged from Table 4.4.

Table 4.4 – Average distance travelled in one minute		
Mode	**Average Speed**	**Distance**
Walking	**5.4 km/h**	**90 metres**
Cycling	**20 km/h**	**330 metres**
Car	**54 km/h**	**900 metres**

A trend in urban design today is towards compact, 'neo-traditional' patterns that feature an interconnected street network with closely located employment, retail and neighbourhood centres, transport nodes and open spaces [118]. Walking is a viable travel option in these areas owing to the reduced distance between trip origins and destinations [61, 63] and because the road layout helps to reduce severance [118]. Because highly connected grid networks have a poor traffic safety record at intersections, low-speed intersection treatments such as traffic-calming roundabouts will be important. The road network does not need to be as permeable as the pedestrian network.

Off-street pedestrian networks can have a role in neo-traditional areas as they may provide pedestrians with their most enjoyable walking experiences [4]. If well placed they can also reduce the distance travelled by those on foot and alleviate the need to walk beside high-speed roads where there is an increased chance of being hit by a vehicle [118].

Careful urban design can result in drivers, cyclists and pedestrians modifying their behaviour and can reduce the dominance of motorised traffic. Creating a total multi-purpose space when a development is being built eliminates the need later to retrofit a road network with disconnected traffic-calming devices [163]. It becomes safer and easier for people to walk to jobs, shopping, education, leisure and services [163]. Locating high-density residential, retail and other services around public transport interchanges provides options for longer distance trips that do not require a private motor vehicle. This further contributes to enhancing the walking

Figure 4.2 – Traditional grid network, Blenheim (Source: Grant Crosswell, Marlborough District Council)

The principles of pedestrian network planning

environment, and can result in areas deliberately created with fewer cars and greater pedestrian activity [55, 159].

Since many journeys start or end at home, the location of new housing and links to existing transport routes are particularly important. Pedestrians may be given a higher priority than private cars within residential developments [43, 122].

The quality of the street scene is particularly important for pedestrians and is associated with higher walking levels [63]. Pedestrians prefer both close and distant views of features of interest, and landscaping should be provided and maintained while always ensuring personal security. Pedestrians enjoy lively and animated street scenes, so in many situations a modest flow of vehicles is generally acceptable and provides improved natural surveillance. As traffic engineering devices can be ugly, attention to attractive design is important [124].

We need to ensure that our view of a street is more than just functional. Streets and public spaces should be beautiful, engaging and inspiring. Too often they are boring, repetitive and ugly. As a general principle, it is important to promote a quality public environment where impediments to walking are only implemented when they are absolutely essential. For urban design, *People – places – spaces: a design guide for urban New Zealand* [105] provides guidance on urban design principles and how to create better urban design at project level. Urban design also relates to procedures discussed further in *Easy steps* section C2 [175] and *Manual for streets* [176].

Photo 4.3 – Pedestrian precinct, Christchurch (Photo: Susan Cambridge)

4.4 Personal security issues

Personal security issues can be a major barrier to walking and creating walkable communities, especially during hours of darkness and in town centres [36]. People who are concerned about perceived dangers, may modify their travel behaviour by not going out alone after dark or avoiding certain areas or routes. Parents, because of perceived danger, may also modify their children's behaviour by not allowing them to walk without adult supervision. Personal security issues can also create a barrier to accessing public transport services on foot.

Photo 4.4 – Natural surveillance from street activity, Nelson (Photo: Tim Hughes)

Personal security issues should be considered in three general areas [107]:

1. The environment should be legible, with pedestrians able to see and understand their immediate surroundings and those ahead.
2. Pedestrians should be visible to others, particularly other pedestrians.
3. Pedestrians should be provided with alternative routes to avoid potentially threatening situations.

Applying the practices in this guide will address pedestrians' personal security. Additional advice can be found in the *National guidelines for crime prevention through environmental design in New Zealand* [107]. It is particularly important to [107]:

- provide adequate lighting
- ensure pedestrians are able to see and be seen clearly in the surrounding area – and maintain this ability
- avoid designs that create recessed areas and hiding places
- provide pedestrians with the maximum number of route choices
- maximise 'natural surveillance' – the number of people overlooking an area from homes, streets or places of entertainment
- provide suitable signage
- provide an environment that looks 'cared for', eg prompt graffiti removal.

Personal security issues can be best addressed when considering [36]:
- walking strategic plans
- pedestrian audits and walkability surveys
- safe routes to school
- pedestrianisation schemes
- neighbourhood accessibility plans
- walking school buses
- lighting pedestrian amenities
- planting and vegetation maintenance
- maintaining footpaths and adjoining areas
- promotional campaigns for walking (see chapter 20)
- designing building frontages that overlook public spaces.